

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method at a decoder comprising:

selecting for output one of a plurality of sequences of bits, each of the plurality of sequences being as each individual decoded bit in a block of bits from among all possible bits values, or a sequence of bits that comprise a block of bits from among all possible sequences of bits, the bit value or the sequence of bits, respectively, that is determined to have a maximum likelihood based on a plurality of soft symbol metrics for a data block,

characterized in that:

~~for each individual bit in the block of bits when each possible bit value is determined to be equally likely for that bit, outputting from among each possible equally likely bit value the bit value whose the selected sequence having a weight that is greater than ~~the equally likely bit value whose weight is a minimum~~ weight for the plurality of sequences, the weight of each sequence being determined by a number of non-zero bits in the sequence, and for a sequence of bits together in the block when more than one sequence is determined to have the same maximum likelihood, outputting the maximum likelihood sequence of bits whose weight is greater than the maximum likelihood sequence of bits that has the minimum weight.~~

2. (Currently Amended) The method of claim 1, comprising determining the plurality of weights for each of the plurality of sequences having the maximum likelihood wherein for each individual bit in the block the possible bit values are a ZERO and a ONE, and when for a bit they are both determined to be equally likely, a ONE is outputted.

3. (Currently Amended) The method of claim [[1]] 2, wherein determining the plurality of weights for each of the plurality of sequences having the maximum likelihood comprises summing the number of non-zero bits in each of the plurality of sequences for the sequence of bits when more than one sequence is determined to have the same maximum likelihood, the maximum likelihood sequence outputted is the sequence having the largest weight.

4. The method of claim 1 wherein the method is performed at a decoder in a receiver in a wireless communications system.

5. The method of claim 4 wherein an all-ZERO decoder output is avoided in the presence of weak signal conditions.

6. A method at a decoder comprising:
selecting for output one of a first plurality of sequences of bits, each of the first plurality of sequences being as each individual decoded bit in a block of bits from among all possible bits values, or a sequence of bits that comprise a block of bits from among all possible sequences of bits, the bit value or the sequence of bits, respectively, that is determined to have a maximum likelihood based on a plurality of soft symbol metrics for a data block, the selected sequence being selected randomly from a second plurality of sequences, each of the sequences in the second plurality of sequences having a weight that exceeds a minimum weight for the first plurality of sequences, the weight of each sequence being determined by a number of non-zero bits in the sequence

characterized in that:

for each individual bit in the block of bits when each possible bit value is determined to be equally likely, randomly outputting one of the equally likely bit values, and for a sequence of bits when more than one sequence is determined to have the same maximum likelihood, randomly outputting one of the maximum likelihood sequences.

7. (Currently Amended) The method of claim 6 , comprising determining the plurality of weights for each of the plurality of sequences having the maximum likelihood wherein for a sequence of bits, the randomly outputted sequence of bits is chosen from among the maximum likelihood sequences that excludes the maximum likelihood sequence that has the minimum weight.

8. The method of claim [[6]] 7, wherein determining the plurality of weights for each of the plurality of sequences having the maximum likelihood comprises summing the number of non-zero bits in each of the plurality of sequences ~~the method is performed at a decoder in a receiver in a wireless communications system.~~

9. The method of claim 8 wherein an all-ZERO decoder output is avoided with high probability in the presence of weak signal conditions.

10-20. (Canceled)